Latterly, one has learnt that carbon is able (o comhine directly with oxygen to form CO, provided (he temperature »»f reaction be sufficiently high. It must, therefore, aU> he possible to produce carbon monoxide if the carbon hrnu".ht into use be in thin beds. But in such an arran^emeni if i very difficult to pass the oxygon through in such wise ihai it-is completely absorbed by carbon, since in the layer of carbon formed out of individual small pieces spaces are lei'i- hetwe.-n these through which gaseous oxygen can easily pa.s unchanged. If this occurs, however, the free o\\f-.en in ihe gas chamber immediately attacks the carbon monoxide, in addition to that formed by itself, and burns it, and thetvl<\ again produces CQo, i.e., the same subsf.a.ncc, which, acconlift". to old views, is the iirst product of the. action nf oxygen «m carbon. This substance can, however, only ho chunked buck into combustible CO through the. agency of incandescent carbon.

Incandescent carbon proves itself in all cases a means i'«»r correcting the imperfections which are able to present ih*-m selves in the production of carbon monoxide, and in onlrr t«» bring its action to the "maximum, it appears to an uer (he purpose to charge it direct) into the gas chamber, and in .itch wise that—

1. The incandescent carbon completely seals the >»a:i chamber, and all gases forced through are only pe access thereto through this itself.
2. It is also employed to an amount which safely to compel all gas molecules to have their composition a to the test of contact with carbon, and completely : themselves therewith, before they are able to ixsiie fr»»m the reaction zone and enter the gas chamber proper. Thus the bed of incandescent carbon is equivalent i»» a safety device, which is a complete filter for the ^rax

The apparatuses in which those reactions are brought about—the producers—must be able, to be sealed ra,-. ti-hi from the atmosphere, and their linings must, pn.,-,IVl-, tin, property of being able to withstand high heat. They imi4 be provided with openings for the supply of the solid fuel, nm gaseous oxygen, as well as for the yan produced, and the